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Two new species and a new subspecies of Trichoptera from Turkey and Spain

(Insecta)

By **Füsun Sipahiler**

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Two new species and a new subspecies of Trichoptera from Turkey and Spain are described and illustrated: *Tinodes nehirae,* spec. nov. (Turkey), *Silonella aurata ronda,* subspec. nov. (Spain) and *Limnephilus malickyi,* spec. nov. (Turkey).

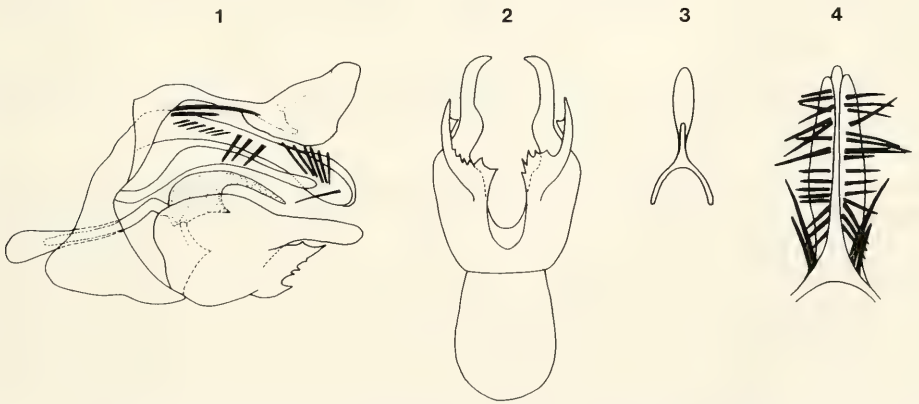
Dr. Füsun Sipahiler, Hacettepe Üniversitesi, Egitim Fakültesi, Fen Bilimleri Bölümü, 06532 Beytepe, Ankara, Turkey

Tinodes nehirae, spec. nov.

Figs 1–4

Antennae, maxillar palps and wings greyish-brown; legs pale brown; head and thorax dorsally brown. Length of the anterior wing of male 4.5–5 mm, of female 5–5.5 mm.

Male genitalia (Figs 1–4). Tergit 9 with a large distal part, which appears as an ovale lobe in dorsal aspect; the sclerite part of tergit 9 is similar to that of the related species. In lateral view, sternit 9 broad ventrally and gradually narrowed towards the middle. Preanal appendages are long and thin; laterally they are somewhat dilated in the middle and rounded at the tips. The inferior



Figs 1–4. *Trinodes nehirae,* spec. nov., male genitalia. 1. Lateral. 2. Ventral. 3. 9. tergit, dorsal. 4. Aedeagus and parameres, dorsal.

appendages with a long finger-shaped upper part which is rather smooth and rounded at the apex in lateral view; in ventral view they are dilated in the middle and curved at the tips towards the inner side. The lower parts of the inferior appendages have five tooth-like projections at the base and two projections protrude from the longer part at the tip. In ventral aspect the lower parts of the inferior appendages are thin in the middle and directed to the sides. Laterally the inner basal appendages have a large basal part, which is slightly curved at the base of the dorsal edge; the free tips are pointed; the ventral triangular projections are large, short and located somewhat below the ventral edges. The parmeres are long and large and possess 18 bristles on each side; two of which are located at the base and directed anteriorly, the three subdistal pairs are directed posteriorly, the rest of the bristles are mainly directed to the sides. The aedeagus is slender and slightly longer than the parameres.

Holotype ♂, and paratypes (7♂, 7♀): Turkey, Adana, Saimbeyli, 25 km. west of Doganbeyli, Ceralan Köyü, 2.7.1990; other paratypes: Adana, Saimbeyli, Pagnik Köyü (Kizilagac Köyü) 4.7.1990, 2♂, 2♀; leg. Sipahiler, coll. Zoologische Staatssammlung (München) (ZSM).

This new species of genus *Tinodes* belongs to the *pallidulus*-group and is closely related to *T. polyhymnia* Malicky from Greece and *T. janssensi* Jaquemart from Greece and Bulgaria (Malicky, 1974, 1976). The main differences are seen in the shape of the inner basal appendages and the inferior appendages. The inner basal appendages of the related species have a short basal part and long ventral projections, which are located near the ventral edges if viewed ventrally; *T. nehirae,* spec. nov. has a large basal part and relatively short projections, which are located below the ventral edge. The upper parts of the inferior appendages of *T. nehirae* are ventrally curved to the inner side at their pointed apex; in the related species they are directed posteriorly and rounded at the apex. The shape of the lower part of the inferior appendages also distinguishes these species.

The new species is dedicated to my sister Mrs. Nehir Ünel.

Silonella aurata ronda, subspec. nov.
(Figs 5–12)

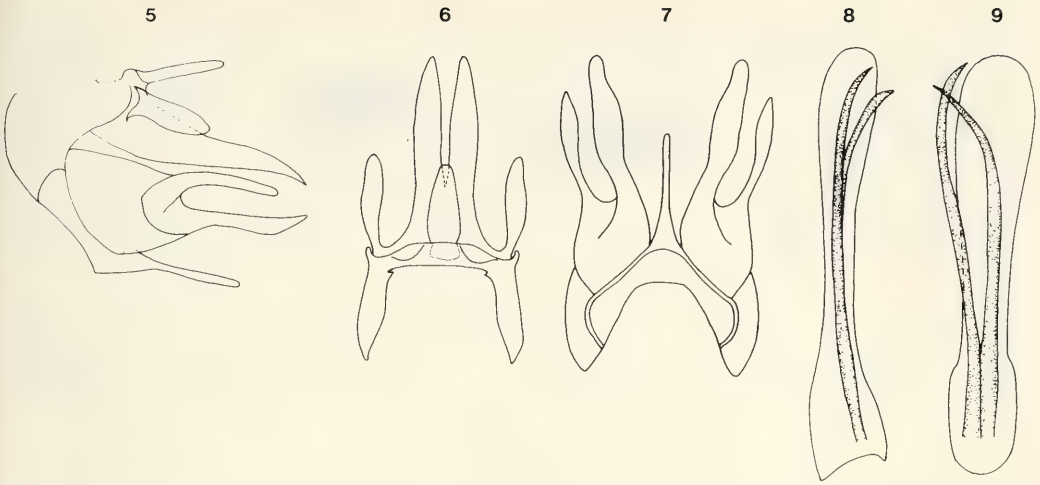
Antennae, legs and wings brown. Length of the anterior wing of male 6.5 mm, of female 7.5 mm.

Male genitalia (Figs 5–9). Segment 9 ventrally with a very long median projection; laterally dorsal projection is smooth. Segment 10 is almost as long as the upper part of the inferior appendages in lateral aspect and acute at the apex; dorsally the median excition reaches to the second third of the segment. The lower part of the inferior appendages is dilated subdistally towards ventral. Parameres are as long as the aedeagus and bent to the inner side if viewed ventrally.

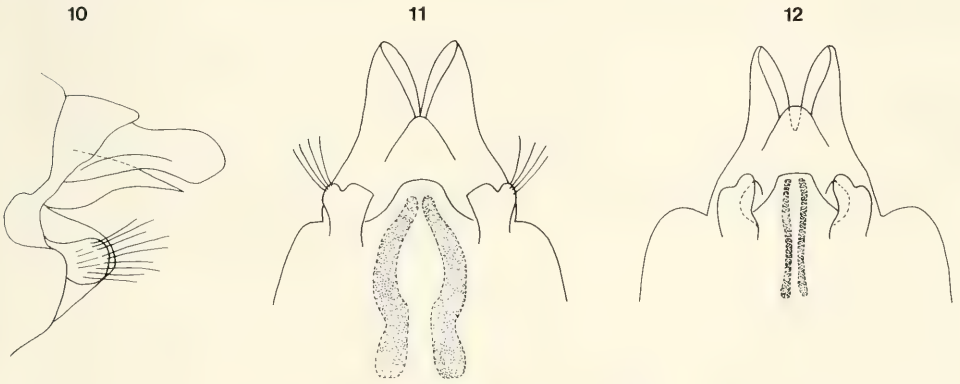
Female genitalia (Figs 10–12). In ventral view the sclerites of the genital room are large and long.

Holotype ♂, allotype ♀ and paratypes (1♂, 1♀): Spain, Andaloisie, Sierta de Ronda, rousseau affluent du rio Guadalmina, avant le Puerto de la Refrigera, 1400 m, 16.4.1987; same place and date, Certijo, Fuenfria, 1600 m, 1♂, 1♀; leg. Vincon, Coll. ZSM.

Silonella aurata ronda, subspec. nov. is well distinguished from the *S. aurata aurata* Hagen from Corsica, Sardinia, Algeria and Tunisia (Malicky and Lounaci, 1987) by the shape of the male genitalia, especially the length of the ventral projection of segment 9, which is twice as long as than that of *S. a. aurata* (Malicky, 1983). In lateral aspect the tenth segment is as long as the lower part of the inferior appendages in *S. a. ronda* while it is shorter than the lower part of the inferior appendages in *S. a. aurata;* the lower part is dilated subdistally in the new subspecies, while it is nearly smooth in *S. a. aurata;* the parameres of the nominal form are clearly shorter than the aedeagus and directed to each side if viewed ventrally, in *S. a. ronda* they are slightly shorter than the aedeagus and bent to the inner side subdistally. The visible differences in the female genitalia are seen in the shape of the ventral sclerites, which are large and long in *S. a. ronda* and short and thin in *S. a. aurata* (Fig. 13).



Figs 5–9. *Silonella aurata ronda,* subspec. nov., male genitalia. 5. Lateral. 6. Dorsal. 7. Ventral. 8. Aedeagus, lateral. 9. Aedeagus, ventral.

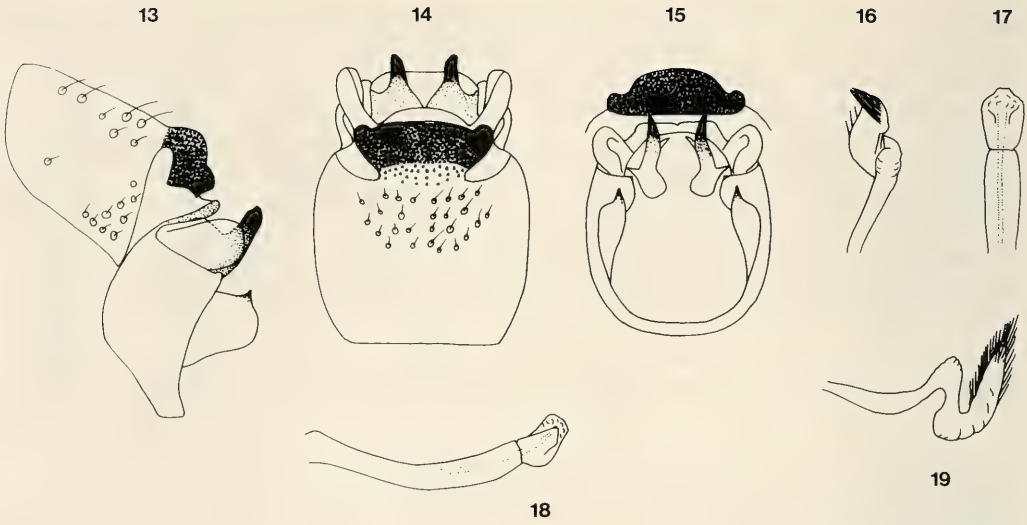


Figs 10–11. *Silonella aurata ronda,* subspec. nov., female genitalia. 10. Lateral. 11. Ventral.
Fig. 12. *Silonella aurata aurata* Hagen, female genitalia, ventral.

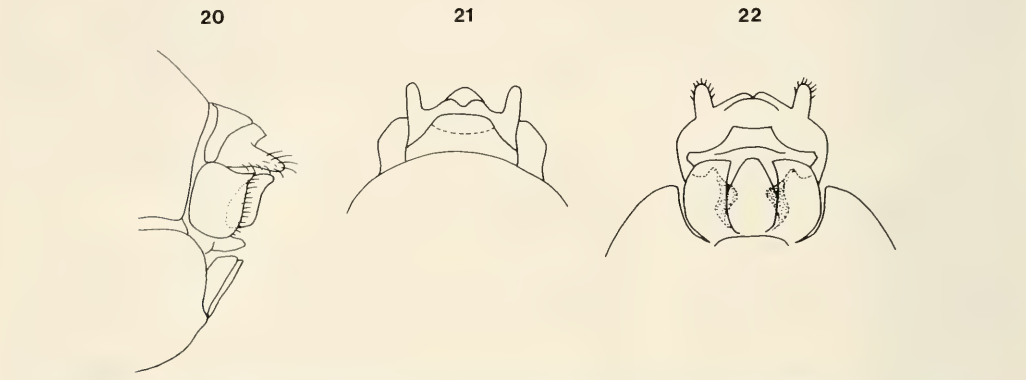
Limnephilus malickyi, spec. nov.
(Figs 14–22)

Antennae, legs and wings dark brown; anterior wings with pale brown dots, which are especially dense on the apical parts. Head, thorax and abdomen dorsally black. Length of the anterior wing of male 7.5–9.5 mm, of female 9–10 mm. Females are brachypterous.

Male genitalia (Figs 14–19). Tergit 8 with a large spinulose zone, which is curved apically in lateral view; dorsally two rounded projections appear on each side of the apical edge and become narrower towards the base. Segment 9 is broad laterally and narrow ventrally; dorsally it is very narrow and strongly sclerotised. Preanal appendages are large, oval and rounded at the apical edges. Intermediate appendages are directed dorsally, rather smooth at their margins and slightly exised on the inner margins of the tips if viewed laterally; in dorsal aspect they are broad at the base and straight on the upper half. Inferior appendages with a rounded apical margin and an acute projection



Figs 13–19. *Limnephilus malickyi,* spec. nov., male genitalia. 13. Lateral. 14. Dorsal. 15. Caudal. 16. Right paramere, dorsal. 17. Aedeagus, dorsal. 18. Aedeagus, lateral. 19. Paramere, lateral.



Figs 20–22. *Limnephilus malickyi,* spec. nov., female genitalia. 20. Lateral. 21. Dorsal. 22. Ventral.

at the tip; they are as long as the preanal appendages and located only at the lateral edges of segment 9 in lateral and caudal aspect. Parameres are curved twice and broad subdistally; the broad parts bear numerous dark brown hairs, especially on the edges. The aedeagus is slightly curved laterally and the distal part somewhat dilated on the ventral edge.

Female genitalia (Figs 20–22). Tergit 9 is dorsally broad and smooth in the middle and narrow on the sides. Segment 10 with finger-shaped projections on each side; in dorsal view, the apical margin of segment 10 is dilated and excised medially. Lateral pieces of vulvar scales are large; in ventral view their apical margins pointed to the inner side. Median scale is also large; apically rounded, and as long as the lateral pieces.

Holotype ♂, allotype ♀ and paratypes (19♂, 18♀): Turkey, Nigde, Aladaglar, Yedigöller, Direk Göl, 3200 m, 30.8.1990; other paratypes: same place, Dipsiz Göl, 31.8.1990, 2♂; leg. Sipahiler, coll. ZSM.

Limnephilus malickyi, spec. nov. inhabits the lake-land areas of the highest part of the Taurus Mountains. There are seven small lakes on the 3200 meter altitude of Aladaglar and this new species

could be collected from only two of them. Although this species may possibly also be found near the other lakes, it seems that it is isolated in this area. *L. malickyi* is closely related to *L. petri* Marinkovic from Brodske reke stream in the Sar Planina mountains (Marinkovic-Gospodnetic, 1966, 1975), and Kopaunik in Yugoslavia and Bulgaria (Kumanski, 1988). The main differences are seen in the male genitalia, in the shape of the spinulose zone, which is very big and covered with dense spinules in *L. malickyi* and the intermediate appendages, which are broad and dilated posteriorly in *L. petri*. The differences in the female genitalia are also evident.

The new species is dedicated to Doz. Dr. Hans Malicky.

Acknowledgement

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